

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331674-935

Luminaire Tested: **SA2XXRDIP-C485D1080U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331674-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D1080U935-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5085.3 lumens
Efficiency: N/A
Efficacy: 102.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

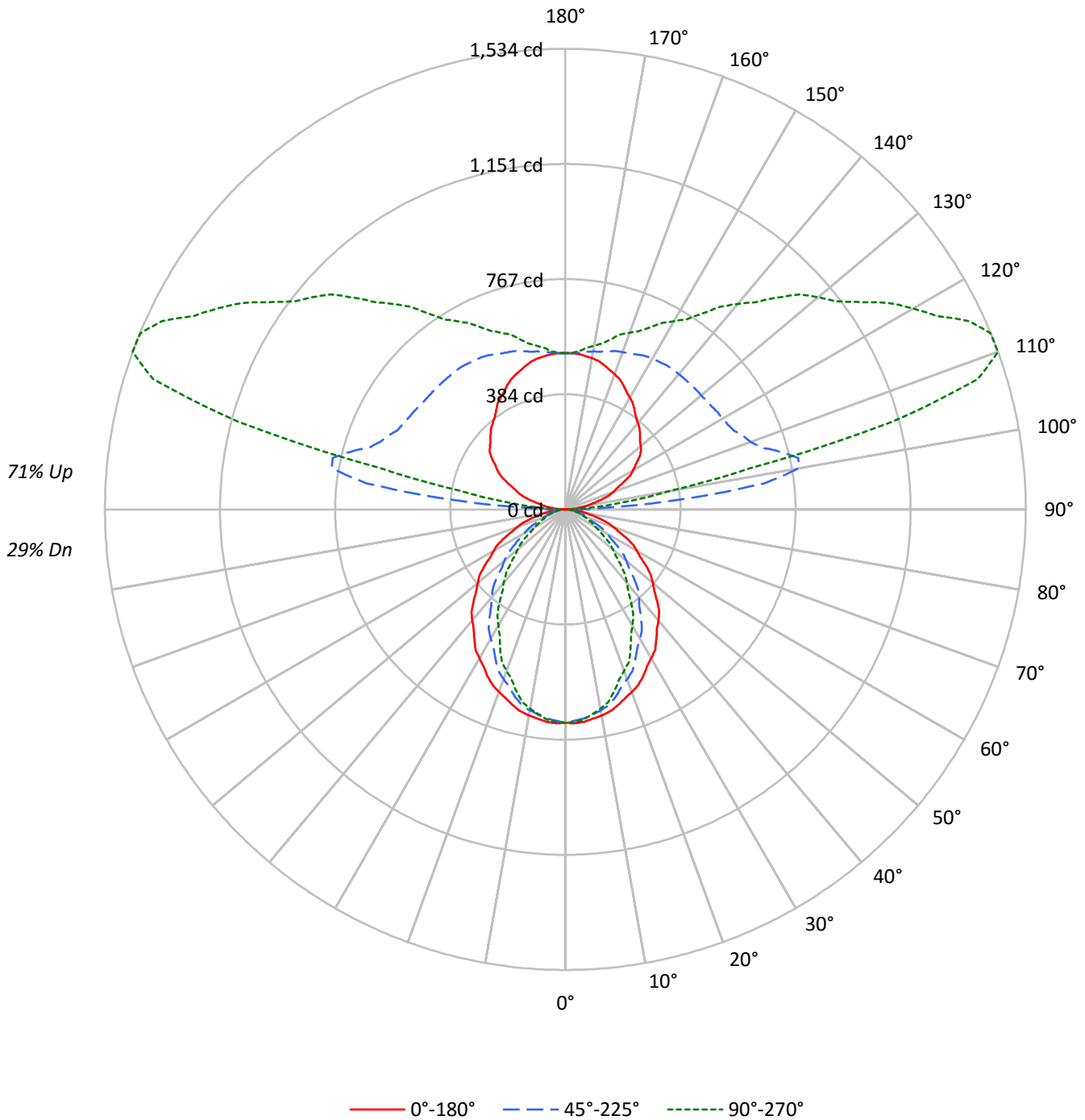
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	102	102	102	102	91	91	91	91	72	72	72	53	53	53	37	37	37	29				
1	93	89	86	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25				
2	85	78	72	68	76	70	65	61	55	52	49	42	40	38	29	28	27	21				
3	78	69	62	56	69	62	56	51	49	45	42	37	34	32	26	24	23	18				
4	71	61	54	48	64	55	49	44	44	39	36	33	30	28	23	22	20	16				
5	65	54	47	41	58	49	43	38	39	34	31	30	27	24	21	19	18	14				
6	60	49	41	36	54	44	37	33	35	30	27	27	24	21	19	17	16	12				
7	56	44	36	31	50	40	33	29	32	27	24	25	21	19	18	16	14	11				
8	52	40	32	27	46	36	30	25	29	24	21	23	19	17	16	14	13	10				
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9				
10	45	33	26	22	40	30	24	20	24	20	17	19	16	14	14	12	10	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11472	11472	11472
5°	11515	11329	11391
10°	11429	11144	11049
15°	11296	10813	10502
20°	11115	10340	9821
25°	10929	9805	9164
30°	10670	9257	8321
35°	10419	8657	7579
40°	10163	8037	6721
45°	9866	7341	5948
50°	9560	6636	5184
55°	9250	5883	4453
60°	8887	5089	3694
65°	8478	4271	3366
70°	7983	3522	3097
75°	7380	3206	2888
80°	6518	2864	2631
85°	5113	2260	2260



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	1.3
10°-20°	182.6	3.6
20°-30°	256.4	5.0
30°-40°	279.6	5.5
40°-50°	257.1	5.1
50°-60°	201.9	4.0
60°-70°	131.7	2.6
70°-80°	67.9	1.3
80°-90°	22.3	0.4
90°-100°	208.0	4.1
100°-110°	705.7	13.9
110°-120°	749.7	14.7
120°-130°	617.2	12.1
130°-140°	495.6	9.7
140°-150°	374.5	7.4
150°-160°	263.2	5.2
160°-170°	154.9	3.0
170°-180°	50.4	1.0
0°-30°	505.6	9.9
0°-40°	785.2	15.4
0°-60°	1244.3	24.5
0°-90°	1466.1	28.8
90°-120°	1663.4	32.7
90°-150°	3150.7	62.0
90°-180°	3619.0	71.2
0°-180°	5085.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	710	707	699	704	703	67
15°	676	668	647	635	628	190
25°	614	592	550	525	514	282
35°	529	494	439	400	384	331
45°	432	388	322	278	260	334
55°	329	277	209	172	158	293
65°	222	169	112	91	88	220
75°	118	75	51	47	46	125
85°	28	15	12	12	12	33
90°	1	14	34	32	33	3
95°	35	86	392	148	114	37
105°	122	184	741	1325	1127	130
115°	215	272	620	1280	1483	213
125°	300	355	596	1037	1203	266
135°	352	420	589	871	997	272
145°	402	462	586	728	796	252
155°	457	494	569	644	669	210
165°	498	513	545	578	587	140
175°	519	520	524	531	529	49
180°	520	520	520	520	520	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5
2.5°	713.1	712.6	712.0	711.4	710.8	709.9	708.7	707.4	706.1	704.9	706.0
5°	710.5	709.8	709.1	708.4	707.7	706.4	704.6	702.7	700.9	699.0	700.3
7.5°	703.2	702.3	701.5	700.5	699.6	698.1	695.9	693.8	691.6	689.5	689.8
10°	697.1	696.0	695.0	694.1	693.0	691.1	688.3	685.4	682.5	679.7	679.2
12.5°	689.3	688.1	686.8	685.6	684.4	682.0	678.3	674.7	671.0	667.4	666.6
15°	675.8	674.2	672.7	671.1	669.5	666.3	661.4	656.6	651.8	646.9	644.2
17.5°	659.3	656.9	654.4	652.0	649.6	645.3	639.1	632.8	626.6	620.4	617.2
20°	646.9	644.0	641.2	638.3	635.4	630.4	623.3	616.1	609.0	601.8	598.3
22.5°	633.5	630.3	627.1	623.9	620.7	615.1	607.0	598.9	590.9	582.8	578.2
25°	613.5	608.9	604.3	599.7	595.1	588.1	578.7	569.3	559.8	550.4	544.6
27.5°	589.3	584.3	579.3	574.4	569.4	561.5	551.0	540.3	529.7	519.0	512.2
30°	572.3	566.9	561.5	556.0	550.6	542.2	530.7	519.3	507.8	496.5	489.1
32.5°	555.9	549.5	543.1	536.8	530.5	521.4	509.8	498.1	486.5	474.8	466.5
35°	528.6	521.2	514.0	506.7	499.4	489.5	476.9	464.3	451.8	439.2	430.2
37.5°	501.3	493.3	485.3	477.3	469.3	458.6	445.2	431.8	418.4	405.0	395.0
40°	482.2	473.7	465.1	456.6	448.0	436.8	422.9	409.1	395.2	381.3	371.2
42.5°	462.7	453.7	444.6	435.7	426.6	414.9	400.6	386.2	372.0	357.7	347.2
45°	432.1	422.6	412.9	403.4	393.8	381.5	366.5	351.5	336.5	321.5	311.3
47.5°	402.3	392.1	382.0	371.9	361.7	348.9	333.4	317.9	302.4	286.9	276.8
50°	380.6	370.5	360.4	350.3	340.1	327.2	311.4	295.8	280.0	264.2	254.4
52.5°	359.6	349.0	338.4	327.8	317.2	304.2	288.8	273.5	258.0	242.7	233.2
55°	328.6	317.5	306.3	295.2	284.0	270.7	255.3	239.9	224.4	209.0	200.4
57.5°	296.8	285.4	274.0	262.5	251.1	238.0	223.2	208.3	193.5	178.7	170.7
60°	275.2	263.8	252.4	240.9	229.5	216.5	201.7	187.0	172.3	157.6	150.2
62.5°	254.1	242.7	231.3	219.8	208.4	195.7	181.7	167.6	153.6	139.6	132.6
65°	221.9	210.3	198.7	187.1	175.6	163.3	150.5	137.6	124.8	111.8	107.0
67.5°	190.7	179.3	167.7	156.3	144.7	133.2	121.7	110.1	98.5	87.0	84.7
70°	169.1	158.0	146.8	135.7	124.5	114.0	104.2	94.3	84.5	74.6	73.2
72.5°	148.5	137.8	127.2	116.5	105.8	96.5	88.6	80.7	72.8	64.8	63.6
75°	118.3	108.3	98.3	88.3	78.3	70.9	66.0	61.1	56.3	51.4	50.5
77.5°	88.6	79.8	71.0	62.3	53.6	48.0	45.6	43.3	40.9	38.6	38.0
80°	70.1	62.8	55.5	48.2	40.9	36.6	35.1	33.8	32.3	30.8	30.3
82.5°	53.1	47.4	41.8	36.1	30.4	27.0	26.1	25.1	24.1	23.2	22.8
85°	27.6	24.6	21.6	18.7	15.7	13.9	13.5	13.1	12.7	12.2	12.2
87.5°	8.4	8.1	8.0	7.5	7.0	7.1	8.1	9.6	10.7	10.9	10.6
90°	1.0	4.0	8.0	10.0	12.0	15.0	20.0	27.0	33.0	34.0	33.0
92.5°	12.2	17.6	24.8	29.2	36.0	45.4	68.0	99.8	128.2	130.0	109.9
95°	35.0	39.0	49.0	58.0	74.0	98.0	144.0	231.0	347.1	392.1	343.1
97.5°	57.0	62.4	73.0	86.6	105.0	132.2	190.0	311.3	504.1	669.3	702.1
100°	77.0	80.0	89.0	105.0	125.0	153.0	206.0	328.0	544.1	790.1	934.2
102.5°	95.4	97.6	106.6	122.6	143.4	171.4	220.4	328.9	528.9	794.2	1020.6
105°	122.0	126.1	133.0	148.0	170.0	198.0	245.0	334.1	499.1	741.1	1007.2
107.5°	150.8	154.0	160.8	174.6	196.5	224.6	270.3	347.8	484.3	684.3	919.4
110°	170.0	174.0	180.0	193.0	214.0	243.1	287.1	359.0	481.1	657.1	864.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	187.6	191.7	198.5	210.6	230.8	260.6	303.1	371.1	481.9	639.6	825.8
115°	215.1	220.1	226.0	238.1	258.0	285.1	328.0	389.1	486.1	620.1	778.2
117.5°	243.5	247.5	253.5	264.1	283.3	311.3	351.0	408.3	493.3	610.7	748.1
120°	261.1	265.0	271.0	280.1	300.1	328.0	367.0	421.1	498.1	605.1	732.1
122.5°	277.8	281.0	287.1	296.9	316.8	345.7	382.3	432.3	503.7	601.9	718.5
125°	300.1	303.1	309.1	321.1	341.0	369.1	405.1	450.1	512.1	596.2	699.1
127.5°	317.6	321.7	330.1	343.3	362.5	391.2	426.3	466.7	520.7	592.7	681.1
130°	328.0	332.1	342.1	356.1	376.1	404.1	439.1	477.1	527.1	591.1	669.2
132.5°	337.7	342.5	353.3	368.1	388.9	416.9	450.3	487.5	533.5	590.3	659.5
135°	352.1	356.1	368.1	383.1	406.0	434.1	466.1	501.1	541.1	589.1	646.1
137.5°	365.7	370.5	382.5	398.5	421.3	447.3	478.9	511.5	547.9	588.9	636.7
140°	376.1	380.0	392.1	408.1	430.1	456.1	486.1	517.1	551.1	588.1	631.1
142.5°	386.5	389.7	400.9	416.9	438.1	462.5	491.7	521.9	553.5	588.1	625.5
145°	402.1	406.0	416.1	431.1	451.1	473.1	500.1	528.1	556.1	586.1	618.1
147.5°	418.9	421.9	431.4	445.3	461.9	481.5	506.9	531.5	556.9	582.6	610.5
150°	430.1	433.1	441.1	454.1	469.1	487.1	510.1	533.1	556.1	580.1	604.1
152.5°	441.3	442.7	450.6	462.1	476.3	492.7	513.3	533.9	554.5	576.1	598.5
155°	457.1	458.1	464.1	475.1	486.1	501.1	518.1	535.1	552.1	569.1	588.1
157.5°	470.3	471.3	476.1	485.7	494.5	507.1	521.5	535.1	547.5	561.9	578.3
160°	479.1	480.1	484.1	492.1	500.1	511.1	523.1	535.1	545.1	557.2	571.1
162.5°	487.9	487.3	491.3	497.7	504.9	513.5	523.9	534.3	542.7	553.1	564.7
165°	498.1	497.1	499.1	505.1	510.1	516.1	525.1	532.1	538.1	545.1	554.1
167.5°	506.5	505.3	507.1	510.9	514.5	518.3	524.9	530.7	533.5	538.1	543.7
170°	512.1	510.1	511.1	514.1	516.1	519.1	524.1	529.1	531.1	534.1	538.1
172.5°	515.3	514.1	513.5	516.5	517.7	519.9	523.3	526.7	527.9	529.3	532.5
175°	519.1	518.1	517.1	519.1	519.1	520.1	522.1	524.1	523.1	524.1	525.1
177.5°	520.9	519.3	518.5	520.1	520.1	520.1	520.9	522.5	520.9	520.1	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5
2.5°	707.1	708.3	709.5	709.9	709.7	709.5	709.2	709.0
5°	701.5	702.8	704.1	704.6	704.1	703.7	703.3	702.8
7.5°	690.2	690.5	691.0	690.8	690.0	689.2	688.5	687.8
10°	678.8	678.4	678.0	677.3	676.5	675.6	674.8	673.9
12.5°	665.8	665.0	664.3	663.1	661.7	660.3	658.8	657.5
15°	641.4	638.8	636.0	634.0	632.5	631.1	629.6	628.3
17.5°	613.9	610.7	607.4	604.6	602.2	599.7	597.3	594.8
20°	594.7	591.2	587.5	584.2	581.1	577.9	574.8	571.6
22.5°	573.6	569.0	564.5	560.9	558.6	556.3	554.0	551.6
25°	538.7	532.9	527.0	523.0	520.8	518.7	516.6	514.4
27.5°	505.4	498.5	491.7	486.6	483.2	479.8	476.4	473.0
30°	481.8	474.6	467.3	461.7	457.8	454.0	450.1	446.3
32.5°	458.1	449.9	441.5	435.6	432.0	428.3	424.6	421.0
35°	421.2	412.2	403.2	397.1	394.0	390.8	387.7	384.5
37.5°	385.1	375.2	365.3	358.5	355.0	351.4	347.8	344.1
40°	361.0	350.9	340.7	333.8	330.1	326.4	322.6	318.9
42.5°	336.7	326.1	315.7	308.7	305.1	301.4	297.8	294.2
45°	301.2	291.1	280.9	274.1	270.7	267.3	263.8	260.5
47.5°	266.7	256.7	246.6	240.0	236.9	233.8	230.6	227.5
50°	244.5	234.7	224.8	218.4	215.4	212.4	209.4	206.4
52.5°	223.6	214.1	204.6	198.5	195.7	193.0	190.1	187.4
55°	191.8	183.2	174.7	169.0	166.3	163.6	160.9	158.2
57.5°	162.9	155.1	147.2	142.2	139.8	137.6	135.3	132.9
60°	142.9	135.7	128.4	123.6	121.3	119.0	116.8	114.4
62.5°	125.6	118.7	111.8	107.6	106.2	104.9	103.5	102.1
65°	102.2	97.3	92.5	89.8	89.4	88.9	88.5	88.1
67.5°	82.5	80.2	78.0	76.7	76.2	75.8	75.3	74.8
70°	71.7	70.3	68.9	67.8	67.3	66.7	66.1	65.6
72.5°	62.4	61.2	60.0	59.2	58.9	58.5	58.2	57.9
75°	49.4	48.5	47.4	46.8	46.8	46.6	46.4	46.3
77.5°	37.5	36.9	36.3	35.9	35.6	35.5	35.2	35.0
80°	29.7	29.2	28.6	28.3	28.3	28.3	28.3	28.3
82.5°	22.5	22.1	21.8	21.6	21.6	21.6	21.6	21.6
85°	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
87.5°	10.2	9.8	10.1	10.2	10.2	10.2	10.2	10.2
90°	32.0	30.0	32.0	33.0	33.0	33.0	33.0	33.0
92.5°	87.2	74.8	66.4	60.2	59.4	56.2	57.0	55.4
95°	262.1	201.0	159.0	137.0	124.0	116.1	113.0	114.0
97.5°	611.5	500.3	392.1	319.9	272.1	247.5	232.8	224.5
100°	913.2	789.2	652.1	531.1	448.1	405.1	376.1	358.1
102.5°	1110.9	1082.8	982.6	854.4	764.1	690.8	654.5	630.2
105°	1215.2	1328.3	1341.3	1308.3	1246.2	1184.2	1141.3	1127.2
107.5°	1140.1	1310.3	1414.3	1462.7	1470.5	1467.1	1458.4	1439.9
110°	1075.2	1254.2	1382.2	1464.3	1507.3	1526.3	1535.3	1534.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1016.0	1187.8	1324.6	1418.7	1478.5	1510.3	1527.3	1532.7
115°	943.2	1097.3	1228.2	1331.3	1402.3	1448.3	1474.3	1483.3
117.5°	888.4	1023.6	1142.5	1239.1	1311.5	1360.0	1387.5	1395.1
120°	861.2	985.2	1091.2	1182.2	1252.2	1299.2	1328.3	1338.3
122.5°	839.6	953.2	1053.6	1135.8	1198.6	1244.8	1270.7	1279.0
125°	808.1	911.2	999.2	1074.2	1132.2	1170.3	1195.2	1203.2
127.5°	777.1	870.4	953.4	1022.6	1073.2	1108.8	1130.4	1136.9
130°	757.2	843.2	922.2	988.2	1037.2	1071.3	1091.2	1099.2
132.5°	738.0	817.6	890.2	952.2	1000.4	1034.4	1052.8	1060.0
135°	711.1	777.1	843.2	899.1	942.2	975.2	993.2	997.2
137.5°	689.7	744.9	797.4	846.2	885.4	913.8	929.6	935.6
140°	676.1	724.2	770.2	814.2	846.2	872.2	887.2	893.2
142.5°	665.0	705.8	745.4	782.1	812.5	836.2	849.5	850.8
145°	649.1	682.2	713.2	742.2	766.1	783.2	793.2	796.2
147.5°	637.0	663.0	687.2	708.3	728.1	741.8	748.6	750.4
150°	628.1	650.1	671.1	689.1	704.1	716.2	722.1	723.2
152.5°	619.3	639.7	657.5	673.1	684.9	695.3	699.7	699.9
155°	607.1	623.1	638.1	649.1	660.1	667.1	671.1	669.2
157.5°	592.9	606.3	618.9	627.5	635.3	641.1	642.9	642.9
160°	584.1	595.1	606.1	613.1	620.1	625.1	626.1	626.1
162.5°	575.3	584.7	594.1	599.5	606.5	609.9	610.9	610.1
165°	562.1	569.1	576.1	580.1	584.1	588.1	588.1	587.1
167.5°	549.5	554.9	559.7	563.4	565.1	567.3	567.1	565.9
170°	543.1	546.1	550.1	552.1	553.1	556.1	555.1	553.1
172.5°	535.9	538.1	541.3	542.5	543.5	544.9	543.9	542.7
175°	528.1	529.1	530.1	531.1	531.1	532.1	531.1	529.1
177.5°	522.5	522.5	523.3	523.3	523.3	523.3	522.5	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1

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